

CLAIMS

What is claimed is:

1. A method of assembling a differential comprising:
rotatably coupling a pair of pinion gears to a pinion shaft;
coupling said pinion shaft and said pinion gears to a differential case; and
coupling a biasing element to said pinion shaft after said pinion shaft has been coupled to said differential case.
2. The method of claim 1 wherein the differential includes a biasing element having a center opening, and wherein said step of coupling a biasing element to said pinion shaft further includes:
aligning the center opening with said pinion shaft; and
displacing the biasing element toward the pinion shaft so that said pinion shaft is disposed in said center opening.
3. The method of claim 2 wherein said biasing element further includes detents and wherein said step of displacing the biasing element further includes the step of displacing the biasing element until the pinion shaft is disposed within the detents.
4. The method of claim 2 wherein the differential further includes a pair of output shafts and the biasing element further defines a pair of cavities, and wherein said cavities receive the output shafts when the biasing element is displaced toward the pinion shaft.

5. The method of claim 4 wherein the biasing element includes detents, and wherein said step of displacing the biasing element toward the pinion shaft further includes the step of displacing the biasing element until the pinion shaft is disposed within the detents.

6. A method of placing a biasing element in a differential having a pinion shaft coupled to a differential case, said method comprising:

aligning a center opening on the biasing element with the pinion shaft; and

displacing the biasing element toward the pinion shaft so that the pinion shaft is disposed within said center opening.

7. A biasing element comprising:

a center section defining a center opening;

a pair of legs disposed on each side of said center section, each of said legs defining a cavity having an open side and wherein each of said center opening and said open sides face the same direction.

8. The biasing element of claim 7 further including an insertion side and wherein said center opening further includes an insertion opening, said open sides and said insertion opening both being located on said insertion side.

9. The biasing element of claim 7 wherein said center section further defines a base and a pair of side walls extending from said base, and wherein each of said side walls further include engagement detents.

10. The biasing element of claim 9 wherein said detents are opposing arcuate segments defined by said side walls.

11. The biasing element of claim 9 wherein said center section includes a side opening in each of the side walls, said openings further defining said cavities.

12. A differential assembly comprising:
a differential case
a pair of side gears located within said differential case;
a pair of pinion gears coupled to a pinion shaft, said pinion shaft being coupled to said differential case so that said pinion gears rotationally engage said side gears;
a biasing element disposed within said differential case and coupled to said pinion shaft, said biasing element comprising a center section defining a center opening wherein said pinion shaft is disposed within said center opening, said biasing element further including a pair of legs disposed on each side of said center section, each of said legs defining a cavity having an open side facing the same direction as said center opening.

13. The differential of claim 12 wherein said center section further defines a base and a pair of side walls extending from said base, and wherein each of said side walls further include engagement detents.

14. The differential of claim 13 wherein said detents are opposing arcuate segments within in which the pinion shaft is seated.

15. The biasing element of claim 13 wherein said center section includes opening in the side walls, said openings further defining said cavities.

16. The biasing element of claim 15 wherein said differential further includes a pair of output shafts coupled to said pair of side gears, said output shafts being disposable within said cavities.